



PRENTICE COMPUTER CENTRE

UNIVERSITY OF QUEENSLAND

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NEWSLETTER

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CONTENTS

- 1 PROFESSOR PRENTICE HONOURED
- 2 MID YEAR COURSES
- 3 REMOTE BATCH STATIONS
- 4 DEC1090 SYSTEM NETWORK
- 5 DETAILED ACCOUNTING
- 6 BATCON IMPROVEMENTS
- 7 CLUSTAN
- 8 A NEW MANUAL
- 9 NO SMOKING IN FACILITIES ROOMS

authorization: Director of the Centre

1 PROFESSOR PRENTICE HONOURED

Emeritus Professor S.A. Prentice has been honoured by the award as an Officer in the general division of the Order of Australia (A.O.) for pioneering computer development in this State.

I am sure the many users who have known Professor Prentice will join with the staff of the Prentice Computer Centre in conveying our congratulations to him.

Director (2189)

2 MID YEAR COURSES

The Prentice Computer Centre will be presenting two courses during July: GETTING STARTED ON THE PDP10 commencing 3 July; and INTRODUCTION TO FORTRAN commencing 10 July.

The courses are offered free of charge to staff and post-graduate students of both the University of Queensland and Griffith University.

GETTING STARTED ON THE PDP10

MONDAY

3 July 9.30 a.m. INTRODUCTION: Services offered, General Information

 10.45 a.m. USING A TERMINAL: Logging in, keyboard, logging out, files.

TUESDAY

4 July 9.30 a.m. BATCH: Card preparation, deck setup, log files.

 10.45 a.m. MONITOR COMMANDS: I/O commands, FMS, copying and printing files.

WEDNESDAY

5 July 9.30 a.m. BEGINNERS EDIT: Setting up files and data, simple editing.

 10.45 a.m. ADVANCED EDIT: Continuation of editing program use.

THURSDAY

6 July 9.30 a.m. INTRODUCTION TO SPSS

 10.45 a.m. STATISTICAL PACKAGES

FRIDAY

7 July 9.30 a.m. Other topics, user queries, etc.

In order to provide users with a chance to interact on each topic, a seminar format has been chosen for each session thus necessitating us to impose a limit on the number attending. If the numbers warrant it, we will repeat the sessions in the afternoon commencing at 2 p.m.

To help us plan the courses, you are requested to register. Would you also indicate, if repeat sessions are held, whether you would prefer morning or afternoon time slot. Registration forms may be obtained from the Hawken Batch Station and should be returned not later than FRIDAY, 23 JUNE. The venue will be notified to attendees after registration.

INTRODUCTION TO FORTRAN COURSE

Further details of this course will be provided after registration.

Note: It is assumed that a pre-requisite for this Fortran Course is either attendance at the Introductory Course or experienced users of the PDP10 as no further time will be spent on use of the system during this course.

Eileen Lander (3941)

3 REMOTE BATCH STATIONS

The Griffith and Commerce Batch Stations have been transferred to the new DEC1090 system. Users of the Griffith Batch Station are reminded that the printer at that station CANNOT overprint, but the printers at Commerce and the central site can. Users wishing to make use of either batch station are referred to the following article.

The only batch stations remaining on the older KA10 system are the Herston Medical School station and the ground floor Hawken batch station.

The only batch stations on the DEC1090 system are at Griffith and Commerce and the recommended procedure for their use appears in the next article.

Arthur Hartwig (3021)

4 DEC1090 SYSTEM NETWORK

The new DEC1090 system is the central computer of a network of connected computers or nodes. Some of these nodes act as terminal concentrators (DN87S) and some as remote batch stations. This network is somewhat more sophisticated than the older KA10 system with remote batch stations and this article will describe some of the differences. This article does not refer to the older KA10 system in any way.

Each node (or computer) in the network is described by both a node number in the range 1 to 77 (octal) and a node name of up to 6 characters. Presently assigned node numbers and names are -

node number	name	description
1	UQKL10	DEC1090 central computer
10	DN87SA	PDP11/40 front-end terminal concentrator
30	COMERC	PDP11/34 remote batch station
50	GUAES	PDP11/34 remote batch station.

A new command NODE has been implemented. It may be given with an optional node name or number and will type the device configuration of the specified node or all nodes currently online. If MCR [1] appears in a node configuration, it indicates that particular node has a command decoder. In the current network configuration only node 1 (the DEC1090) has a command decoder.

The LOCATE command, used to specify the default spooled output (destination) for a job may take either the node name or number at which output is desired. The node number is always accepted but the node name is accepted only if the node is currently in communication with the central computer.

Device names used to specify output destination in commands such as QUEUE or PRINT now follow a different convention in that they may take the form

- a) DEVu
- b) DEVnn
- c) DEVnnu

Form a) refers to the u'th unit of device DEV on the node at which the user is currently located, e.g. if the user is located at node 40 the command

PRINT LPT2:=file

will queue the file for printing on the 2'nd line printer at node 40. Since no node has (or is likely to have) more than one printer, use of this form is not recommended.

Form b) refers to any device of type DEV on the node specified by 'nn' (two character), e.g.

PRINT LPT01:=file

will cause file to be printed at node 1 (the central site in the Hawken Building) and

PRINT LPT30:=file

will cause file to be printed at node 30 (the Commerce remote batch station).

Form c) refers to unit u at node nn. This use of this form is not recommended.

Plotter output should be queued by using the PLOT command without specifying a destination device, e.g. PLOT file or
QUEUE PLT:=file.

No plotting is done on the DEC1090, instead the files are transferred to the correct queues on the KA10 system.

Arthur Hartwig (3021)

5 DETAILED ACCOUNTING

The record format of DETAIL.ACT has been modified slightly. Changes are as follows:

The last field of the original record, e.g. sequence no., has been shortened from 10 characters to 6 and an extra field added to the record to contain an 'A' (PDP1055) or an 'L' (PDP1090) to indicate the system on which it was processed.

Thus DETAIL.LST produced by DETANL will now show the system producing the record.

Any DETAIL.ACT file on a user's area after End of Month will be renamed to DETAIL.OLD on the same area. To process this "Old" file

R OLD:DETANL.

For further information contact Eileen Lander on extension 3941.

6 BATCON IMPROVEMENTS

The following improvements have been provided on both the KA and KL systems. They have in fact been implemented for some time now, but have not been announced pending their trial by a few selected users. This documentation is now provided so that all users may take advantage of these new facilities. Please contact the author of this article if you require additional information, or are experiencing problems with the new commands.

(a) Improved Error Processing

The capability within BATCON to handle an error situation, or to provide a runtime conditional capability is somewhat limited. In the standard system, it is possible to designate an error character, the default being "?" (additionally even when some other character has been designated, "?" always is taken as an alternative error indicator). An error is deemed to have occurred if a line is received by Batcon from the job which starts with the error character (or "?"). The next command after an error has been detected must be -

.IF(. . . .

or the job will be aborted - that is if .NOERROR has not been given. The only options available to the .IF command are ERROR and NOERROR, which clearly allows only a binary decision and does not allow differentiation between a number of possible error conditions.

The new facility provided is an additional BATCON command - .ANALYZ, to be used in conjunction with the .IF(ERROR) given in anticipation of the possibility of an error.

It takes advantage of the fact that a number of systems have a standardized error reporting convention, namely they will produce error messages in the form -

<start of line><error character>CCCM message

where CCC is a mnemonic for the system which detected the error and MMM a mnemonic for the error cause.

The new command will synthesize a .GOTO <label> command to Batcon based on the error cause mnemonic CCC (if it exists). The form of this label will be "%LCCC". Thus, if the full message was -

```
?DRTNSD No such device ABC
then the command .IF(ERROR).ANALYZ
will synthesize the command -
.GOTO %LNSD.
```

In the search of the CTL file to find the label, two special "catch-all" labels will also be recognized, namely "%L" and, if the message was prefaced by a "?", "%FERR".

This new facility will, for example, allow a user to differentiate between the following responses from Direct -

```
?DRTNSD No such device XXX and
%WLDNSF No such files as DSK:XYZ.*[10,103] or
%WLDLKP Protection failure DSKB:[5,30].UFD.
```

All of which would be indistinguishable without the .ANALYZ command.

A typical use in a .CTL file might be -

```
.ERROR %
.DIR GAM:*.BAS
.IF(ERROR).ANALYZ
.GOTO L100 ;WAS OK
%LNSF:: ;HERE IF THERE WAS NO SUCH FILE
;TAKE WHATEVER ACTION SEEMS APPROPRIATE
.GOTO %FIN
%LLKP:: ;HERE IF THE UFD WAS PROTECTED
;SO AS TO PREVENT ACCESS
;TAKE APPROPRIATE ACTION
.GOTO %FIN
%L:: ;HERE IF SOMETHING ELSE HAPPENED
; - STARTING WITH "%"
;TAKE APPROPRIATE ACTION
.GOTO %FIN
%FERR:: ;HERE FOR A 'FATAL ERROR'
;TAKE APPROPRIATE ACTION
.GOTO %FIN
L100:: ;HERE TO GET ON WITH THE JOB
```

(b) Student Job Batching Facility

The stacking of many small jobs within a single Batch deck has been subject to problems, particularly where a single sub-job loops and uses up the job's whole resources. The command .STUCST has been provided to improve supervisor control over such errant jobs.

.STUCST when given, will set the job cost limit to the present expenditure plus the student limit (with the proviso that this cannot increase the cost limit beyond that originally set on the \$JOB card). This student limit is read from the first .STUCST card in the deck and this card should have the form - .STUCST <cents>.

Where <cents> is the required sub-job limit in cents, using integer format. If the argument is not present, or cannot be decoded, then the standard 100 cents is assumed. This field is taken from the first .STUCST card only and will be ignored on all others.

A typical use might be -

```
$JOB . . .
$TOPS10           )Initialization of
.STUCST 80         )student limit
$FORTRAN          )Student job No.1
.
.
$DATA
.
.
$TOPS10           )These go between
%FIN::.STUCST      )each job
.CLOSE            )in the deck
$FORTRAN          )Student job No.2
.
.
$DATA
.
.
$TOPS10           )Etc.
                  )This also goes after the last job.
```

(c) Use on the KL10

Because of the different way printing is handled by the KL10, a slight modification is suggested. A problem arises if excess pages are produced by one sub-job. Normally, output for all subsequent sub-jobs will be lost, though by setting a very large print limit, all output will be printed. However, this may produce a very large amount of useless output. A better approach has been suggested by a user and is illustrated by the sample deck layout below -

```
$JOB . . .
$TOPS10           )Initialization of
.STUCST 80         )student limit
.ASSIGN DSK LPT    )so identifiable files are produced
$FORTRAN          )Student job No.1
.
.
$DATA
.
.
```

```

$TOPS10                )These go between
%FIN:..STUCST          )each job
.CLOSE                 )in the deck
.PRINT/DIS:REN *.LST,FORLPT.DAT,FOR03.DAT etc.
$FORTRAN               )Student job No.2
.
.
$DATA
.
.
$TOPS10                )Etc.

```

Although all the output for the job will not be together, at least the output for each sub-job will be together. Perhaps a /NOTE switch could be used to annotate the output.

C.C. de Voil (3023)

7 CLUSTAN

The Prentice Computer Centre has received information on a computer program CLUSTAN, for performing cluster analysis/numerical taxonomy. Since the methods of this program have had wide application in most disciplines and currently available programs on our system are oriented towards the biological sciences, it may be of interest to a number of users. Certainly other Universities have reported high usage of it at their installations.

Acquisition of this package would be dependent upon users expressing desire to see it mounted and a willingness on the part of some Departments to share the costs of its purchase and maintenance.

A few brochures describing the system are available for inspection at the Hawken Batch Station. Enquiries or comments should be directed to Chris McGovern (extension 3968).

8 A NEW MANUAL

We bring to your attention details of the following new manual available from the Centre -

TECO Editing - A Tutorial Course for PDP10 and PDP11 Users,
S.H. Algie, \$2.00

This manual has been written by Dr. Steve Algie of the Department of Mining and Metallurgical Engineering and is produced by the Centre to aid those who use TECO to manipulate files. It is quite comprehensive and will benefit both the beginner and the advanced user.

C.C. de Voil (3023)

9 NO SMOKING IN FACILITIES ROOMS

No Smoking signs are prominently displayed in public facilities areas. We note, however, that there are cigarette butts in rubbish bins kept in the area for the disposal of used cards and printouts. Recently, there was a minor fire in one of the public areas. You will appreciate therefore why we must insist on NO SMOKING in these areas and that disciplinary action will be taken against offenders. It would be appreciated if academic supervisors would please bring this to the attention of students.

Director (2189)